Indonesia Disaster Relief

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Background

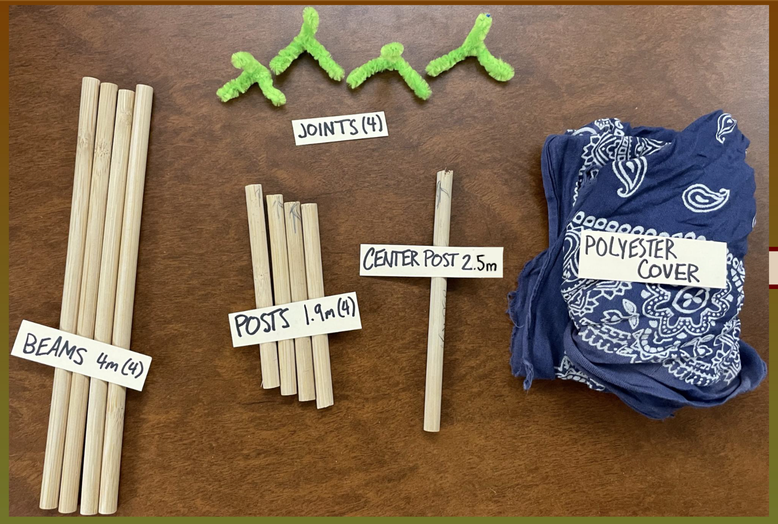
Indonesia is subject to many volcanic eruptions that displace thousands of people per year. It is extremely difficult to predict time and magnitude of an eruption. Currently, displaced people are being crammed into communal areas not suited for living and are often forced to move multiple times due to the changing blast radius

Abstract

The goal of the project is to create a lightweight shelter that can easily be assembled and disassembled for families displaced by volcanic eruptions.

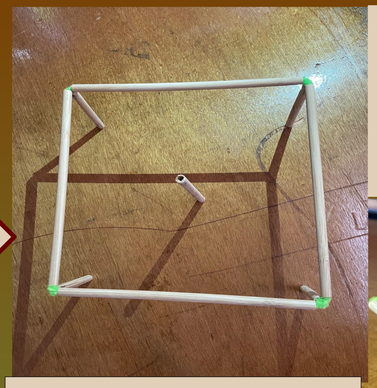
Design

- Bamboo is used to make the skeleton of a tent-like structure to fit 6-8 people
- Polyester fabric is put over the structure and it has loops at the edges to secure it to the ground
- Steel anchors are put through the loops to hold the fabric in place, making it waterproof, safe from ash and large particulates, and tear-proof



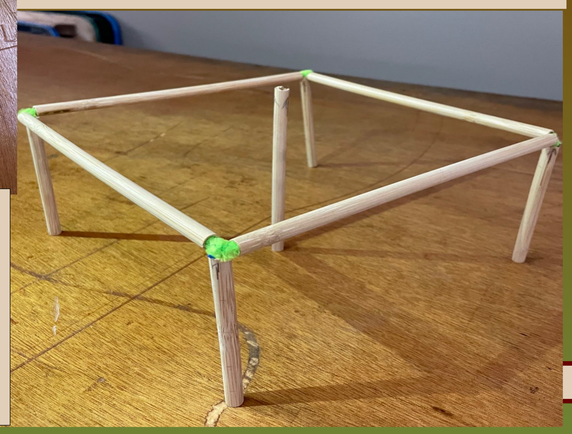
Materials

- Polyester cloth ($2.05/m²)
- Bamboo poles ($1.35/pole)
- Steel anchors
- Solid steel joints

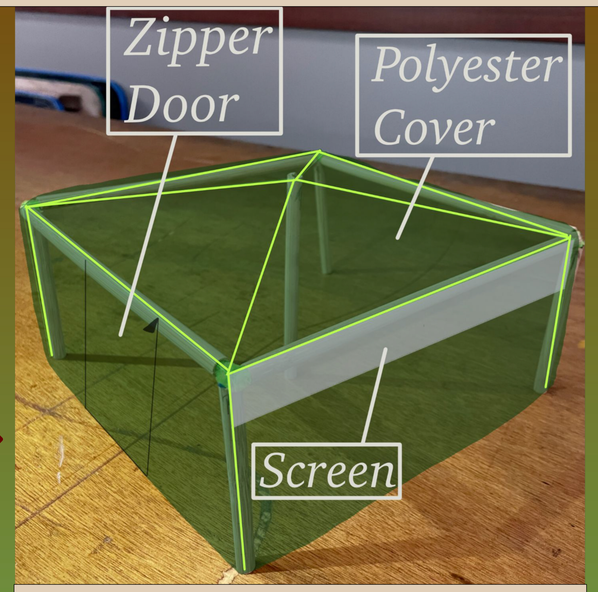


They're treated, so people will be able to continue using them if evacuation procedures continue for longer than expected.

The bases of the bamboo poles are painted with tar (not depicted), so they can go in the ground and they will last for a long period of time.



The whole structure can be assembled by the families once the bamboo poles, joints for fastening the poles, screws, and polyester fabric are provided. 6-8 inch holes will be dug for the bamboo poles.



Polyester fabric is sewn loosely to fit the structure. The edges are held down to the ground separately with steel anchor. It is cheap, and lightweight enough to carry to a car, allowing for quick evacuation.

1. Government has premade sets that contain the necessary materials and information
2. Sets are sent out to families during an eruption via trucks
3. Families set up shelters at advised range from volcano

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